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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/248,980	02/12/1999	NAOTO ABE	862.2678	9424

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EXAMINER

LANEAU, RONALD

ART UNIT PAPER NUMBER

2674

DATE MAILED: 04/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/248,980

Applicant
Naoto Abe

Examiner
Ronald Laneau

Art Unit
2674



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Dec 21, 2001
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 35-50 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

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Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/21/01 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 35-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over the European Patent Application (0 421 712 B1) by Ojima et al.

As per claims 35, 46-50, Ojima et al disclose an image forming apparatus and modulating method. The multivalued input recording signal is subjected to pulse-width modulation at a time unit shorter than the period of a clock signal within the period of the recording signal.

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Alternatively, the multivalued input recording signal is converted into a number of different signals each of whose length of time is shorter than a clock signal within the period of the recording signal, thereby performing pulse-width-modulation. Further, Ojima et al disclose a pulse width modulating circuit for modulating a multivalued input signal (VDO) into a pulse signal (OPD) having a corresponding pulse width. The circuit comprising a clock generating means (10,31) for providing a first clock signal (CLK) and forming means (15,32) for forming a pulse width modulated signal (OPD) from said plurality of parallel binary signals (D1, D2; D1-D4) using said first clock signal (CLK) (see claim 1). Furthermore, Ojima et al disclose a flip-flop 17 see in figure 3 but Ojima et al do not disclose a plurality of flip-flops latching the pattern data as claimed but it would have been obvious to one of ordinary skill in the art to utilize a plurality of flip-flops connected in series as to latch the pattern data of the first clock signal because it would provide a simply constructed image forming apparatus, and a modulating method in which it is possible to form a highly toned image.

As per claims 36-38, Ojima et al disclose an image forming apparatus which includes a first clock signal and a pulse width modulation signal but do not disclose a first clock signal which has an output pattern for releasing or relieving a state of gamma correction for an input image signal but it would have been obvious to include a gamma correction in the clock signal taught by Ojima et al for the same reasons given in previous claims.

As per claims 39, and 40, the image forming apparatus taught by Ojima et al comprises a plurality of devices for forming an image by light emission, arranged in a matrix as claimed.

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As per claims 41-45, it is well known in the art that an image forming apparatus is capable of emitting a light by emitting electrons and emitting light from a light emission member so as to form an image. The device is a surface-conduction type emission which is a Field Emission (FE) type electron emission device and which is a Metal/Insulator/Metal (MIM) type.

Response to Arguments

4. Applicant's arguments filed on 12/21/01 have been fully considered but they are not persuasive.

Applicant argues that Ojima et al do not teach or suggest "a plurality of flip-flops latching the pattern data and that one skilled in the art would not have been motivated to replace a single flip-flop with a plurality of serially-connected flip-flops. Contrary to applicant's arguments, the fact that Ojima has not gotten on these serially-connected flip-flops does not necessarily mean that it is not obvious, it merely means that he has not gotten a patent on this combination. The reason why might be, simply, because the combination is obvious.

5. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

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(703) 308-9051, (for formal communications; please mark "EXPEDITED
PROCEDURE")

Or:

(703) 305-308-6606, (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA.,
Sixth Floor (Receptionist).

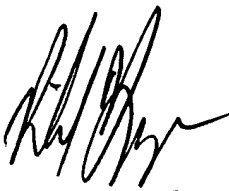
6. Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Ronald Laneau whose telephone number is (703) 305-3973. The
examiner can normally be reached on Monday-Friday from 8:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Richard Hjerpe, can be reached on (703) 305-4709.

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Ronald Laneau

April 2, 2002



RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600